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# THE MEAT YOU HAVEN'T MET

## Exposing the Production-Consumption Gap

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**Rebecca Soja**

advisors: **Sekou Cooke**, Sinead Mac Namara, Terrance Goode

undergraduate thesis

Syracuse University School of Architecture

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*Thousands of miles away in a remote, barren landscape, a young steer feeds on grain rations with 1,000 pen-mates*

– EATING TO BE EATEN.

*Meanwhile, an obese man devours a greasy burger for \$1 at a fast food joint in a commercial strip*

– EATING TO EAT.

The chains of commodification in an industrial, conventional food system are spatially and temporally complex. Consumers are immersed in a global economy of abundant, convenient, and cheap food; however, in reality those products emerge out of locally based systems at the peripheries of geographical and cultural perception. The Meat You Haven't Met critically addresses how the inconsistent agency of architectural design in the conventional food system provokes the fragmentation of production and consumption spaces through the focused lens of industrial beef production.

Many meat consumers are unconscious of an intruding architecture and infrastructure that destroys natural landscapes, symbiotic relationships, and local communities in order to support such a sizeable industry. Industrial beef producers refuse to acknowledge the serious immediate and long-term ramifications of their desires to control fickle nature through synthetic, manufactured means for economic gain. Furthermore, they employ deceptive imagery in marketing schemes to capitalize on lack of public knowledge. Yet, as contradictions about industrial beef are publicized, consumers demand a more transparent food system. Where can architecture designed for consumption intersect with earlier phases of production and processing to link these seemingly disparate yet completely interdependent experiences?

This thesis contends that architecture can be a tool for exposing the social, environmental, economic, and political problems caused by industrial beef production and excessive cultural consumption of beef in order to promote meaningful change. A narrative is established in which a fictitious beef corporation seeks the expertise of an architect to design a Transparency Tour as part of a greenwashing campaign. However, while the intent of the corporation is to mislead consumers to gain loyalty, the architect seizes the opportunity to infiltrate the system and expose realities that would have remained hidden. Subversive design interventions within three stops along the tour deliberately juxtapose production and consumption experiences: the cow/calf operation and steakhouse, the feedlot and fast-food restaurant, and the packing plant and grocery store. The challenge is to deceive the deceiver with unavoidable, slit-like moments along a pre-determined sequence that explicitly force tour people to confront the realities of a complicated, messy network that aren't so easy to digest.

# THE CLIENT



**[CONVENTIONAL BEEF INDUSTRY LEADER]**



FARM  
to  
FORK



COMPANY  
PROFILE  
and  
ANNUAL  
REPORT

2014



BEEFVILLE,

ALL THINGS  
BEEF.

USA

a burger isn't just  
**A BURGER.**



REBECCA SOJA  
**The Meat You Haven't Met**  
Undergraduate Thesis  
Syracuse University  
School of Architecture

advisors:  
**Sekou Cooke**  
Terrance Goode  
Sinead MacNamara

PRODUCED BY



corporation



printed by

**GREEN-WASH  
PUBLISHERS**

"committed to improving your ecological hoofprint."

## A BURGER ISN'T JUST A BURGER

**F**ood is a complex part of our everyday lives because it is necessary for sustenance, but it has also become highly commercialized and turned into commodity food stuff. Like energy or water, food is one of those things many people take for granted. And, unless you are a vegetarian or vegan, meat is a commonplace thing in your life. People don't need to worry about where their food really comes from because other ideals of convenience, affordability, or taste have been taken care of behind the scenes by industry-dominating beef producers. They have a product to sell and humans need it, so the current trends continue. Production always ends with consumption.

Technologies and innovations that arose out of industrial mass production methods and war time technologies during the twentieth century led to the present conventional food system. All of this was seen as progress, but no one could have really predicted how unsustainable these practices are. As a result, there are lessons to be learned and revisions to be made. Of course, this isn't simple. The obstacles are many from redesigning actual procedures to reshaping attitudes of the public. However, when the main objective is monetary and profits are in the billions, why should beef change for the sake of public health, the environment, or community values?

It wasn't until more recently that people have become increasingly concerned about where their food comes from. There is a food movement rising. This is comprised of multi-dimensional social movements aimed at bringing about a food system that will provide healthier diets, greater well-being and livelihood, more robust agro-ecologies, and more opportunities to forge and renew social ties. This goes beyond changing consumption choices at an individual level, and instead addresses structural injustices at a foundational level. A diverse range of issues from labor

reform to environmental stewardship, to food access, are unified through critiques of industrial food. It involves not only rigorous research and analysis, but also encouraging alternative food networks that use food as a tool for positive change in many dimensions. Efforts expose contradictions within the agro-industrial food system and that makes them a threat. There is tremendous demand for greater transparency in the food system, but currently there is so much information that remains concealed.

Agribusinesses often use the tactic of greenwashing to clean up their corporate images. Any producer of a commercial product will use strategies to market their product to entice consumers. In beef production, this also involves deception through imagery and nostalgic associations with Americana and old-time values. Reverting back to traditional means and scales of production may in fact be part of the solution towards sustainability, but that would be too easy.

Part of the problem is that despite raised awareness, consumers are more distanced from a relationship with food than ever and our appetites are bigger than ever. If there is ample cheap

meat someone has to eat it right? There is an unavoidable link between beef production and consumption; the production has shaped our excessive cultural consumption of meat, which in turn fuels more demand for production. The outcome is not a transparent food system when corporations will tell you what you want to hear, even if it's not the total reality. Additionally, architects usually design the programs of consumption, while engineers are left to deal with the engrained efficiency of production. This in itself is problematic because the consumption and production are designed with interrelated motives, but completely different design approaches. Yet ironically, all of this works in a commercialized society of deception and perception.

Ultimately, a burger is so much more than just a burger. It is the outcome of a well-oiled series of processes. We understand a burger starts as a cow, but the food chain is part of a complicated, messy network that isn't easy to digest. Where can architecture designed for consumption intersect with earlier phases of production and processing to have agency in creating the transparent food system people really want?





**The magazine of articles telling you EVERYTHING you need to know about the beef you eat.**

This book is a compilation of the many contradictions of an industrialized beef industry that shapes our excessive cultural consumption of meat. Topics such as air quality, waste management, treatment of animals, or worker conditions are covered. Instead of presenting extensive research in a more straight-forward book layout with chapters and photographs or diagrams, the magazine already begins to critique the exploitive nature of conventional food system tactics. One may have to sift through for certain information, but that's kind of the point. At first glance, illustrations, advertisements, and bolded text appear to be positive, encouraging the reader to eat meat without worry or concern. A graphic design template sets a tone of freshness, sustainability, and old-time values, perhaps words one would associate with a bucolic farm. However, upon further inspection, the body of the text reveals the hidden distasteful realities of the big beef industry providing people with cheap meat. This subtle sarcasm subversively undermines the system while seemingly supporting its continuation, serving as a metaphor of how industrial beef's unsustainable practices for profit are paradoxically symptoms of the industry's inevitable demise. This also sets a tone of sarcastic underpinnings driving the following phases of the project.



**An annual report containing the company profile, statistics, and reviews of industry progress.**

This book also inserts key research points through text, diagrams, and charts, but is formatted as a publication that profiles a fictional beef producer: Beefville, U.S.A. Corporation. It represents all beef production in the United States and serves as the foundation for the following phase which is to design a transparency tour of architectural interventions. Through greenwashing, the corporation strives to gain support from wary consumers and protesters in order to continue operating at a massive scale. Like in the magazine, myths of what the beef industry wants consumers to believe are juxtaposed with the reality. The first step is to present the benefits of conventional beef and the strides that have been made towards a sustainable future. The corporation must form a convincing image of trustworthiness, responsibility, and morals. Emphasis is placed on targeting notions of Americana- the hard-working cowboy or farmer, vast stretches of land with roaming cattle and rows of corn, or the convenient fast-food joint or the distinguished steakhouse restaurant that are romanticized aspects of American life. Also included is an overview of each of the seven determined phases of the beef food chain starting with cow-calf operations and ending with the steakhouse restaurant. In this documentation, architectural elements and spatial qualities are identified to later be manipulated or transformed as components of the transparency tour. Areas of intervention are suggested that will contribute to a revealing experience.



**Brochures, advertisements, and maps promoting the Beefville, USA Transparency Tour.**

Employing a strategy of transparency through concealment, which amplifies current industry marketing strategies to cover up flaws to subversively undermine the system, a sarcastic campaign of a transparency tour for the fictional corporation Beefville, U.S.A. is devised. A tour guide map and series of brochures advertise and promote the amusing and enlightening experience. This tour has the intention of gaining consumer loyalty and support for industrial beef by implying consumers will be more willing to buy beef products if they know more about how and where they are made. Perceived obstacles preventing transparency would deceptively be removed. In other words, it would be a greenwashing campaign that sets up an experience rooted in positive messages, but still conceals the complete truth. As the architect of this experience, the objective is to take on the task of creating a better corporate image to fulfill the primary requests of the corporation. However, this will be done with sarcastic interventions that through concealment, only amplify the problems because the experience is so outrageous and ridiculous no one would ever believe it. Ultimately, this design phase would critique existing conditions and methods in which architecture and geographies, when combined with politics and culture, enable the conventional food system. Therefore, this phase is all about exposing through designed scenarios and environments.

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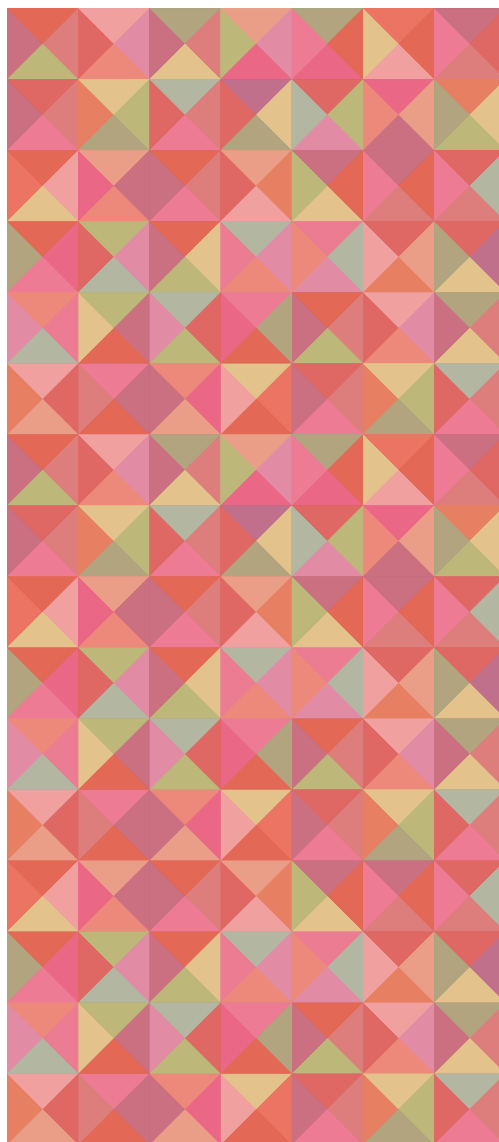
## **7 PHASES OF THE BEEF FOOD CHAIN**

from cattle to beef

**50** 

## **TOPPING THE CHARTS**

the proof is in the numbers



**~ 10,000 B.C.E.**

settlement  
invention of agriculture  
domestication of animals

**1890-1930**

30 million people  
immigrate to the United  
States

**1926**

USDA establishes  
standards for carcass  
grading

**1611**

cattle are brought to the  
first English Colony in  
America at Jamestown

**early 1900s**

adoption of synthetic  
fertilizers based on  
petrochemicals

**1920s-1930s**

trucks, tractors, and  
equipment replace cattle,  
horses, plows, etc.

**1800**

start of the Industrial  
Revolution

**1906**

Upton Sinclair's *The Jungle*

Pure Food and Drug  
Act of 1906

**1930s**

Great Depression  
government programs to  
assist farmers

**1870s**

railroad networks allow  
meatpacking to move  
westward

first Federal Meat  
Inspection Act

**1931**

USDA Animal Damage  
Control Program  
established to eradicate,  
suppress, and control  
wildlife considered to be  
detrimental to western  
livestock industry

**1880**

mechanical refrigeration  
and insulated rooms come  
into use

**1920s**

growth of industrial animal  
farming; realization that  
adding vitamins A and D to  
feed rations allows producers  
to keep animals inside  
year-round to channel energy  
into rapid growth

**1933**

first farm bill passed  
(now passed by Congress  
every 5 years)

Agricultural Adjustment Act

**1889**

meat plants use mecha-  
nized disassembly and  
conveyor procedures

**1922**

The National Livestock and  
Meat Board is founded as a  
cooperative effort by  
producers and packers to  
promote meat

**1940s**

start to use hybrid seeds  
increase production for  
war effort

pesticides and herbicides  
adopted from wartime  
technology

post-war surpluses

# OUR HISTORY

tradition • progress • legacy

## mid 1940s-1950s

subsidized corn  
advent of the  
commercial feedlot

## post WWII

confinement methods lead to  
cattle mortality and disease  
outbreaks; develop antibiotics  
to add to animals' water and  
feed

## 1948

Universal Declaration of  
Human Rights

opening of the original  
McDonald's

antibiotic Aureomycin is  
discovered, improving  
animal health and nutrition  
to assist confinement  
operations

## 1955

second McDonald's opens  
as start of fast-food chain  
restaurant enterprise

## 1956

Eisenhower signs the  
Federal -Aid Highway Act of  
1956 (state of interstate  
highway system)

## 1961

new slaughterhouses use  
"chain" to move cattle along  
disassembly line instead of  
gravity

## 1967

introduction of boxed beef  
product by IBP

## 1969

E. Coli outbreak linked to  
ground beef at McDonald's

## 1970s

rapid geographic  
concentration and  
centralization of the beef  
industry

## 1978

retail market for beef  
impacted by the introduction  
of two brands: Certified Angus  
Beef and Coleman Natural  
Beef; now have over 100  
brands both certified and not  
approved by USDA

## 1980s

emergence of the term  
globalization

## 1988

IPCC (Intergovernmental Panel  
on Climate Change) founded

opening of 10,000th  
McDonald's (today over 35,000  
restaurants worldwide)

## 1993

E. Coli outbreak  
Meat Industry VS USDA  
lawsuit

## 1994

first GMO - the flavor  
savor tomato

## 2002

launch of McDonald's  
dollar menu

## 2003

mad cow disease crashes  
the market

## 2004

mapping of bovine  
genome completed

## 1978

United Nations Food and  
Agriculture Organization  
report states that  
livestock sector accounts  
for 18% of global  
greenhouse gas  
emissions

## 2050

global consumption of  
meat set to double

# VALUES that MATTER

we value what consumers value because it's important.

It's quite rare for a corporation (or any given person or entity for that matter) to admit its faults. To many this is seen as a weakness, especially when critical relationships are at stake. Often, corporations want others to see them as the 'good guys' because opinions about their reputation influence future success. This reputation and is shaped by core values.

Corporate values are the operating philosophies or principles that guide a company's internal conduct as well as its relationships with customers, partners, and shareholders. Therefore, values not only summarize how a company says it will act or behave in achieving its objectives, but also how others expect or want the company to act and behave when achieving its goals or providing a service. Different people value different things. These could be objects, ideas, or morals that have significant monetary, spiritual, physiological, or other meaning. When values are shared or understood, this creates trust, respect, and admiration.

The beef industry values a range of things. At the forefront for any company in a capitalist economy is profit. Profits indicate the ability to sell products. As a result, producers depend on factors like output, efficiency/time,

quality, and branding to surpass competitors. Current methods also value inputs like petroleum, or corn, soy, and alfalfa for feeds, or antibiotics in order to operate to accomplish these standards. The things that consumers value also need to be considered, in part because of ethics and doing what is right, but also in part to boost sales. The pre-occupied consumer values affordability, accessibility, and convenience. This aligns with a lot of the industry's initiatives. Speed and optimization realized through a rational mindset lead to more cheap meat. Meat producers can also develop more products to peak the curiosity of consumers or make their lives simpler. However concerned consumers also care about issues like public health, the environment, and animal welfare, which don't always correspond with the other core values. But, because these values are moral and benefit others, they are emphasized by corporations, even if not prioritized in operations to gain a solid, reliable reputation. Consequently, consumers are lied to or given distorted information that they believe to be true, which is a major obstacle in realizing a transparent food system.

However, part of the dilemma is also that the things the beef industry do and should value are in opposition.

There are leaders in the industry who do care about providing safe food, fulfilling environmental stewardship, or supporting local communities, but there are challenges in a complex society driven by commodities and an even more complex food system that prevent beef corporations from dedicating full attention to such causes.

The same is true of the consumers. We may have certain values, but that doesn't mean we always follow them. Consumer sovereignty is the idea that in a capitalist culture, consumers should and do make their own free consumption choices based on a number of criteria. It suggests that if people "vote with their forks" the food system will reflect what consumers chose to eat/buy by giving them more of what they demand. However, not everyone can eat according to their values because of costs, time, knowledge, access, and disparities, so the concept of actual consumer sovereignty becomes an impossible utopian luxury. Additionally, consumer sovereignty puts pressure on the individual to make changes, rather than holding larger entities accountable. The leading beef producers are not perfect; they can impact change, but they need to follow through with their core values and own up to their mistakes.

# What's at [STEAK]?

we believe it is our commitment to...

**CREATE WEALTH THROUGH PROFIT AND GROWTH**

**PROVIDE THE HIGHEST QUALITY, HEALTHFUL BEEF PRODUCTS**

**ENCOURAGE INNOVATION AND TECHNOLOGY FOR SUSTAINABILITY**

**PRACTICE ENVIRONMENTAL STEWARDSHIP**

**SUPPORT AND EDUCATE LOCAL AND GLOBAL COMMUNITIES**

**PROMOTE ANIMAL WELFARE**

**TREAT WORKERS WITH RESPECT AND FOSTER OPPORTUNITIES**

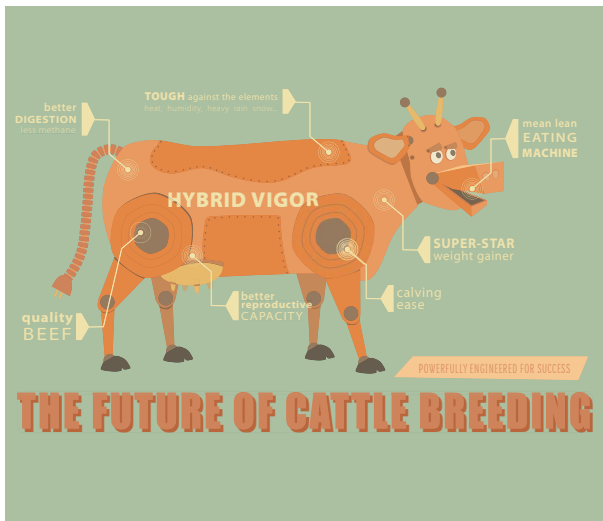
**IMPROVE FOOD ACCESS AS A BASIC HUMAN RIGHT**



values really do matter.

# MAKING A DIFFERENCE

## one



Cows are social and intellectual creatures that form relationships and are highly in tune with their surroundings. Slaughterhouse designs by people like Temple Grandin attempt to recognize this, but often times industrialized processes overlook this fact at the expense of the animals' well-being and nature itself. Instead, producers rely on breeding and biotechnology to combat fickle nature so that it can fit within a highly regulated, production process. Cows are viewed as mechanical robots that can be programmed and controlled to fulfill a pre-determined destiny. Uncertainty can not be at risk when profits are at stake.

## two



Without antibiotics, animals are extremely susceptible to disease when enduring the crowded, stressful, dirty, unfamiliar, and unnatural conditions of confinement. These antibiotics not only impact animals, but also have the potential to mutate into superbugs that can infiltrate human food sources that our antibiotics and immune systems will no longer be able to battle. Antibiotics are a means to continue industrial trends rather than confront the real issues with the food system that need to be addressed. --- 90% of antibiotics given to animals are excreted as urine or manure which may be used instead of chemical fertilizers on organic farms, transferring antibiotics and antibiotic-resistant bacteria to the fresh produce humans eat too. While high-temperature composting is required, testing for drugs by USDA standards is not.

# SMALL CHANGE AT A TIME...

## three



With just under 100 million cattle and calves in the U.S. alone, there is a lot of manure to deal with. Due to the specialization of CAFOs that only 'grow' cattle, the ecological benefits of manure are worthless, leaving producers with more manure than they know what to do with. Various methods have been adopted to store, utilize, and decompose manure, but such efforts are still insufficient as the manure piles up and has detrimental consequences for air, water, and soil that harms ecologies and local communities. The absence of strict government regulation enables lackadaisical waste management or disposal. As a result, factory farms are not held accountable for monitoring, cleaning up, and disposing of their waste. Beef stays cheap, but other costs begin to add up.

## four



Industrial beef producers cut costs and maximize efficiency which results in the conventional hamburger. This could be the patties at a fast-food chain empire like McDonald's or the ground beef at the grocery store. Basically, if you don't know where the beef comes from, it's mystery meat - blended from various grades of ground meat (fresh, frozen, lean, fatty), from different parts of different cows, from different slaughterhouses, from different states and countries. These disclosures and subsidies from the government for grains for animal feeds or factory farm clean up keep meat cheap. How else could a profit be made from a \$1 hamburger? Small farms don't receive this preferential treatment so they can't compete. The reality is: industrial food is convenient and affordable initially, but in the long run it certainly is not cheap.



# THE RIGHT APPROACH

**STRIVING FOR PROGRESS AND  
MAINTAINING INDUSTRY INTEGRITY**

a winning combination of ideologies, attitudes, & methods proven for success.



# CONVENTIONALIZATION

## **AUGMENTING SUSTAINABLE ALTERNATIVES DEMANDED BY THE CONSUMER.**

Conventionalization is the process through which an alternative food value chain increasingly becomes only a slightly different version of an industrial one. An alternative may be more sustainable, but as it expands in response to consumer demands, the alternative must also operate at a monstrous scale, employing strategies similar to industrial food production and losing sight of initial goals for sustainability. In the beef industry the clear exemplar is grass-fed beef. On a small, diversified farm grass-fed beef makes a lot of sense ecologically. However once that operation is scaled up issues of deforestation and overgrazing are unavoidable. Grass-fed beef also has cons. The problem at present isn't necessarily how the beef is produced, but how much beef is produced. A lot of blame is allotted to production, but consumption habits are just as culpable. Billions of cattle are slaughtered each year to feed greedy appetites around the globe. Making even slight changes to reduce consumption would positively impact health care, energy use, and climate change. Reform is not the augmentation of opposition for continuation, but the implementation of policies, practices, and networks that seek to transform the world through food, not only transform the world of food.



# MODERNIST

## **INNOVATION AND TECHNOLOGY AS DRIVERS OF SOCIAL AND ECONOMIC PROGRESS.**

This is one of the ideologies of industrial production that has been adapted to food production. It uses conventional science and technology as a fundamental driver of social and economic progress, which is viewed as positive and inevitable. The main objectives are to control nature and humanity which can be fickle and hinder such progress. However, one of the downfalls of this perspective is a disassociation with the past in favor of continual advancement to address current needs which has led to numerous issues and contradictions. These problems, here with attention to beef production, should be contextualized with history to recognize levers of change which requires a lot more than science.



# PRODUCTIVIST

## **A RELENTLESS PURSUIT TO INCREASE EFFICIENCY AND OUTPUT TO BENEFIT ALL.**

This ideology of industrial production adapted to food production focuses on a relentless pursuit to increase efficiency and output which is assumed to benefit everyone. For example, one of the main justifications for industrial beef is that it has the capacity to feed the world's growing population. However, as statistics show, many still suffer from hunger or inadequate food access, especially in the United States where there is ample meat produced. There are still inequalities in consumption even though consumption rates have risen considerably due to the affordability of cheap meat. As contradictions like these are revealed, industrial food production can no longer be justified in the same way it was glorified after the Industrial Revolution as negative consequences and impending costs to the environment, public health, and community vigor become more publicly apparent.



# SPECIALIZATION

## **EXPERTS IN THE BEEF CATTLE BUSINESS FOR GENERATIONS.**

This is a pressing production shift that abandons diverse farming systems in favor of monocultures (single crops). It is assumed to help optimize yields and efficiency (often for less money) because each crop (in this case cattle) requires special machinery, nutrients, resources, and ideal climate. In the beef industry, the supply chain is further divided with different operations or facilities that specialize in a certain step such as breeding and birthing, growing crops for cattle feeds, finishing the 'growing' of cattle on feedlots, transporting animals, or slaughtering animals and processing their carcasses. Each of these steps occurs in a kind of chronology and they are explicitly linked, but are ironically somewhat independent. Despite greater production and regulation, specialization eliminates natural ecologies, consequently becoming dependent on synthetic inputs. For example, symbiotic relationships that would enhance pest control, soil quality, and waste management by raising cows on pasture for their whole lives are ignored with CAFOs where cattle are fed unnatural grain diets and require antibiotics. These practices are overused, further amplifying problems like antibiotic resistance, eutrophication, acute or chronic health effects for humans, or the inadvertent killing of other species. Methodologies lose their effectiveness, which leads to a demand for new scientific technology and manipulation to improve upon techniques or the genetic make-up of cattle to resist these hostile outcomes that we've created ourselves.



# CONSOLIDATION & CONCENTRATION

## **FEWER AND LARGER OPERATIONS WITH GAINED EFFICIENCY AND GREATER OUTPUT.**

Consolidation occurs when operations grow larger to capitalize on economies of scale to gain the efficiency and greater output that comes from working at a larger scale. It is a trend towards fewer and bigger operations that come to monopolize sectors of production. Concentration occurs when a small number of corporations control most of the sales in an industry. Small, family-operated farms still exist, but they suffer in a capitalized economy that favors well-financed agribusinesses that turn out more beef at a cheaper price. The beef industry is a strong example of both concepts, rapidly consolidating in the 1970s and becoming concentrated in particular regions of the United States with centralized operations. Today, the four top producers control about 85% of the market. These huge corporations either shut down or take over smaller operations who can't compete to maintain dominance. A great example is JBS, who buys out beef packing plants that are struggling to enforce their own methods for efficiency to upturn profits. All of this supports the industrial-minded production of abundant, cheap, often processed or unhealthy meat and excessive consumption rates.



# INTEGRATION

## **VERTICAL AND HORIZONTAL INTEGRATION ACROSS THE COUNTRY.**

There are two trending methods of consolidation and concentration: vertical and horizontal integration. Vertical integration is when corporations merge at multiple stages along the beef supply chain to form one big conglomerate that manages multiple phases of production. Therefore, one company may oversee cow/calf operations, feedlots, transportation, slaughter, and processing. In comparison, horizontal integration merges several corporations involved in the beef industry at the same level of production into a single corporation. For example, the owner of one feedlot operation may take over five other feedlot operations to expand, but it wouldn't be concerned with other processes like breeding or slaughter that occur before and after that phase. Additionally, vertical and horizontal integration can happen in the same sector. This further enables the leading corporations to wield power and influence industry trends to maintain that power. Again, this supports the production and consumption of abundant, cheap meat that has expensive consequences for other parties.



# APPROPRIATIONISM

## PRODUCING MORE THAN BEEF TO STRENGTHEN THE FOOD SYSTEM.

Appropriationism is the selling of inputs formerly produced on a farm such as fertilizer or seeds, or machinery to replace manual/animal labor. The excessive amounts of manure produced by thousands of cows confined on feedlots is sold as fertilizer for pastureland or crops, but this manure contains antibiotics, pathogens, and chemicals that can be toxic for human consumption. Cattle with superior genetic traits are valued; a cow's embryos or a bull's semen with sperm can be collected, stored, and sold for artificial insemination in breeding programs. With tractors and other machines, cattle are also no longer needed to do manual labor so they can be used exclusively for milk or meat production. Nearly every component of agricultural production is becoming a commodity. In this way, the biological constraints of food production are capitalized on for profit through the application of science and technology so that corporations can avoid some of the inherent risks of doing the farming themselves. Other parties become dependent on these inputs or risk losing profits just to earn a decent living because otherwise they can't compete at all. This helps to explain how corporations have exerted so much economic power in the beef food chain.



# SUBSTITUTIONISM

## CREATING MORE OPTIONS TO SATISFY OUR CONSUMERS.

Substitutionism is the reduction of an agricultural input to a simple, exchangeable industrial input. This means synthetic additives during processing can increase shelf-life or enhance taste or nutritional quality that can not be achieved through farm production alone and requires industry. There is a noticeable difference between the hamburger one eats at McDonald's and the hamburger one purchases from the butcher at the grocery store and grills himself. The first is clearly more processed and is situated within a different context. Science and technology manipulate natural elements, resulting in highly processed food commodities to meet consumer demands for convenience, health, taste, etc.



# RISK ASSESSMENT

## QUANTIFYING RISK IN TIMES OF UNCERTAINTY.

There are two common approaches to environmental uncertainty: the precautionary approach and the risk assessment approach. The first approach is popular in Europe; it is the notion that new technology, methods, or products should be seen as risky until proven safe. In comparison, the risk assessment approach used in the United States relies on a basic assumption that some risk is acceptable. It involves a process of quantifying the probability of a harmful effect to individuals or populations from certain human activity. As long as there are no dangerous, widespread threats posed by beef production, producers will continue to market beef until conditions get so bad (like a massive viral outbreak) that they are forced to pull the plug. A lot of the current industrial strategies for producing beef at a tremendous scale remain in action because their ramifications were not immediately perceived. It has taken decades for researchers, scientists, environmentalists, doctors, etc. to realize the detrimental implications of industrial beef production. The environment and public health are in jeopardy in large part due to meat production. Now we must respond and implement strategies that remediate and recover for a sustainable future.

by purchasing corn and soy at prices below  
production cost due to government subsidy policies

we save money to  
SAVE CONSUMERS

**MOOLAH**

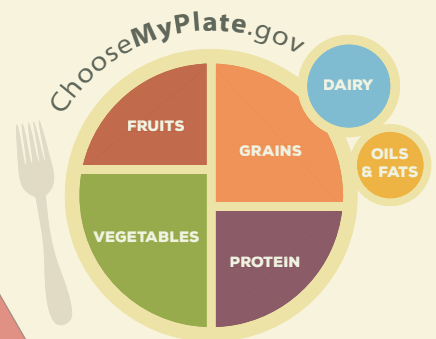
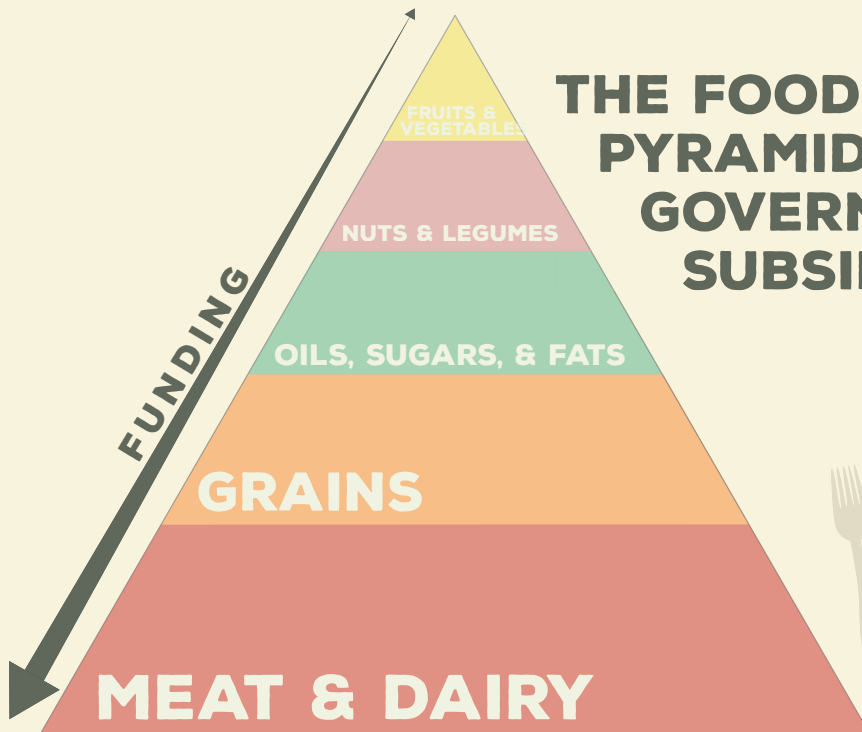
# \$ federal Support

The federal government supports foods we shouldn't be eating and means of production that aren't sustainable. Industrial beef producers don't necessarily out-compete, they just get preferential treatment compared to small farms (non-factory farms) that don't get federal funding.

↓ decrease  
operating costs  
**5-15%** (billions  
of dollars)  
by finishing cattle with grain feeds

between  
**1997-2005**,  
the beef industry saved  
~ **\$3.9 BILLION**  
per year

between  
**1995-2009**,  
the **USDA** distributed  
more than **\$246 BILLION**  
in subsidies for **commodity crops**  
with **taxpayer dollars**



how does this translate into this?



**USDA**

**United States  
Department of  
Agriculture**

**The federal executive board responsible for developing and executing federal policies on farming, agriculture, forestry, and food.**

Tasks of the USDA are many and varied. It covers a lot of ground, influencing several aspects of our daily lives, even externalities that affect us indirectly. The department's stated mission is to "provide leadership on food, agriculture, natural resources, rural development, nutrition, and related issues based on sound public policy, the best available science, and efficient management." The range of goals, from expanding economic opportunity, especially in rural America, to promoting sustainable agricultural practices, or increasing access to healthful and safe food, results in competing motives and objectives. The USDA is responsible for meat safety, but also increasing meat sales. It impacts the retail market by certifying various brands, plus it is in charge of the grading program established in the 1920s that categorizes cuts of beef as standard, prime, choice, or select based on the quality of marbling and fat content- something completely unrelated to health and nutrition. Beef may be inspected for pathogens, but that doesn't mean it won't lead to other chronic diseases caused by saturated fats and calories. Essentially, the USDA is interested in keeping beef cheap, which may go against efforts for sustainability or protecting public health. Overall, there is inadequate regulation and industrial beef producers are protected from liability because of their friends in the upper tiers of the USDA.

<http://www.usda.gov/>



**OSHA**

**Occupational  
Safety & Health  
Administration**

**The primary federal agency in the United States Department of Labor responsible for enforcing safety and health legislation to ensure good working conditions for men and women.**

The agency is accountable for imposing its standards as it carries out inspections and gives fines for regulatory violations. However, unfair and dangerous work conditions still exist, particularly in the food system. For example, meat packing workers who perform extremely dangerous tasks along fast-moving production lines endure severe physical injuries, cumulative trauma, and psychological disorders. Meat packing corporations often don't adhere to OSHA standards and OSHA is not powerful enough to frighten them into complying. The fine for the death of a worker is \$70,000, which is a marginal sum for corporations making tens of billions of dollars per year. Employers also manipulate and terrify workers to reduce their health benefits. Additionally, many injuries are dismissed or covered up as workers are forced to get back on the factory floor before fully recovering. Even though meat packing companies insist on having sincere interest in the well-being of workers, these are just empty words. Insufficient and enabling laws, as well as lack of public awareness, allow such abuse and inequity to continue. The government should play a greater role in drafting policies that protect workers from such suffering.

<https://www.osha.gov/>



**AMI**

**American  
Meat  
Institute**

**The oldest and largest trade association representing the US meat and poultry industry.**

The trade association provides leadership to advance the interests of America's meat and poultry packing and processing companies. It informs members of legislation, regulations, and media activity that impact the beef industry and conducts scientific research to improve facilities and products. Members include both large and small producers. Because the AMI represents nearly all beef producers, it is the voice of the industry. It declares what issues are important to the industry, shedding a positive light on the industry as a whole even if not all members actually practice what is being preached. Industry issues include: animal health/welfare, business economics, the environment, food safety and inspection, health and wellness, international trade, and workforce employment and safety. However, for example, even though the AMI may make a claim such as the beef industry is "committed to being good stewards of the environment in which they operate", this is not the whole truth. Clearly, industrial beef production is harmful to the environment and ecologies; such a claim distorts the reality of the situation, which is that while big beef producers may care about the environment, it is not on the top of their priorities list. The industry may comply with regulations and legislation like the Food Safety Act or the Clean Water Act, but that's only because they have to.

<http://www.meatami.com/>



**phases**

*of the*

**BE**

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**COW-CALF  
OPERATION**

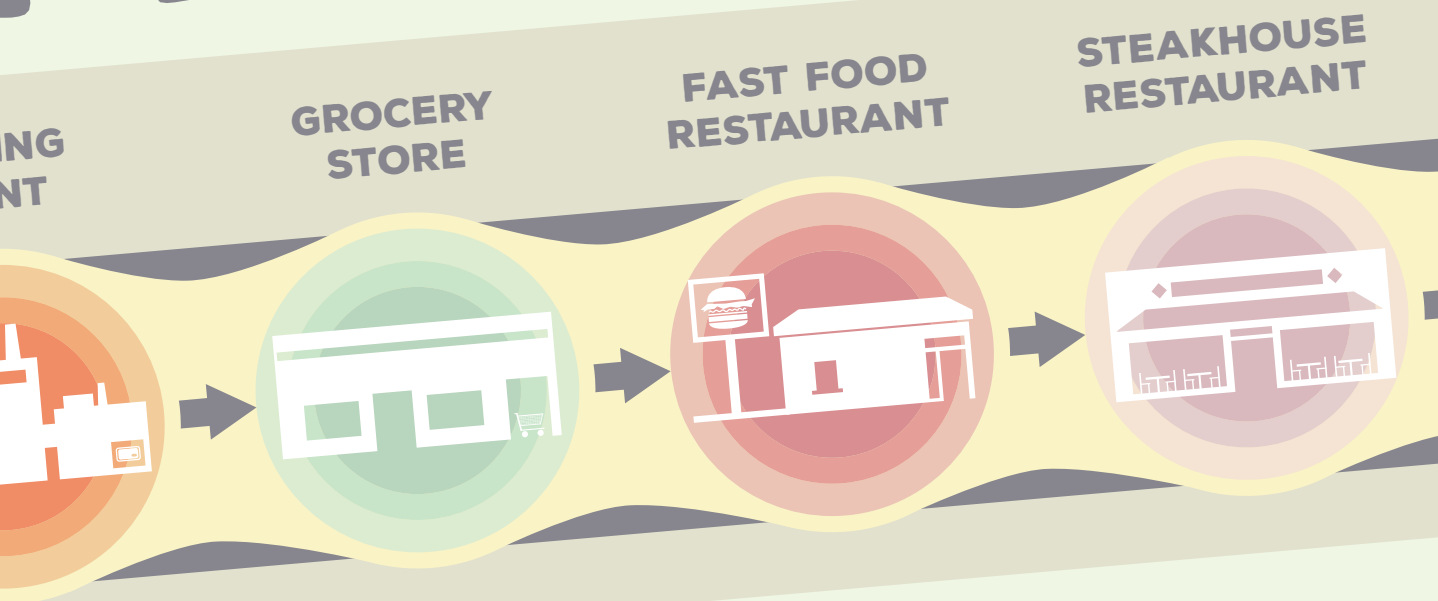
**LIVE CATTLE  
AUCTION**

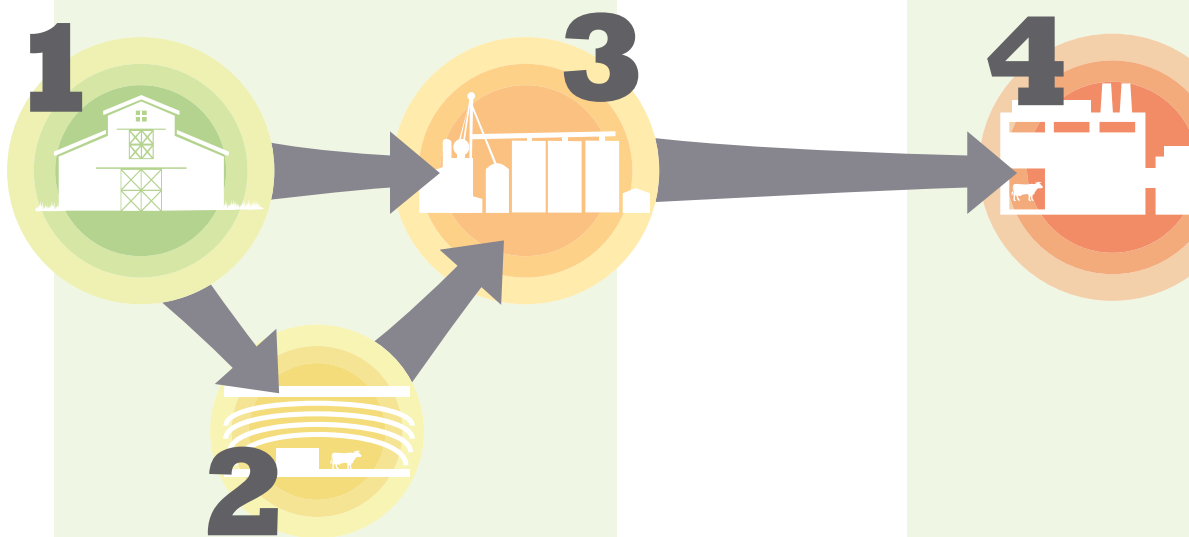
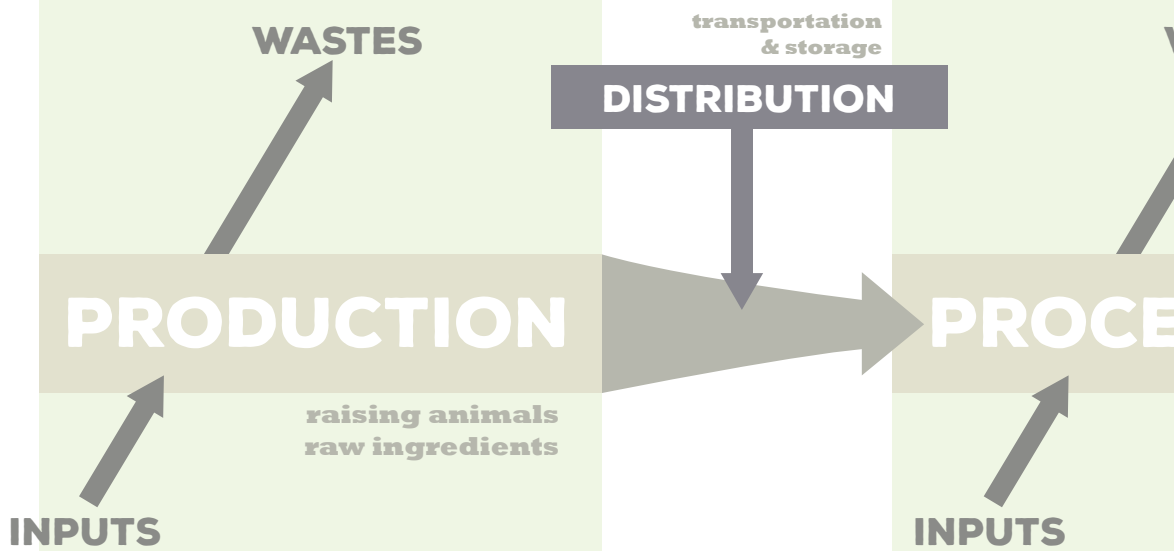
**CATTLE  
FEEDLOT**

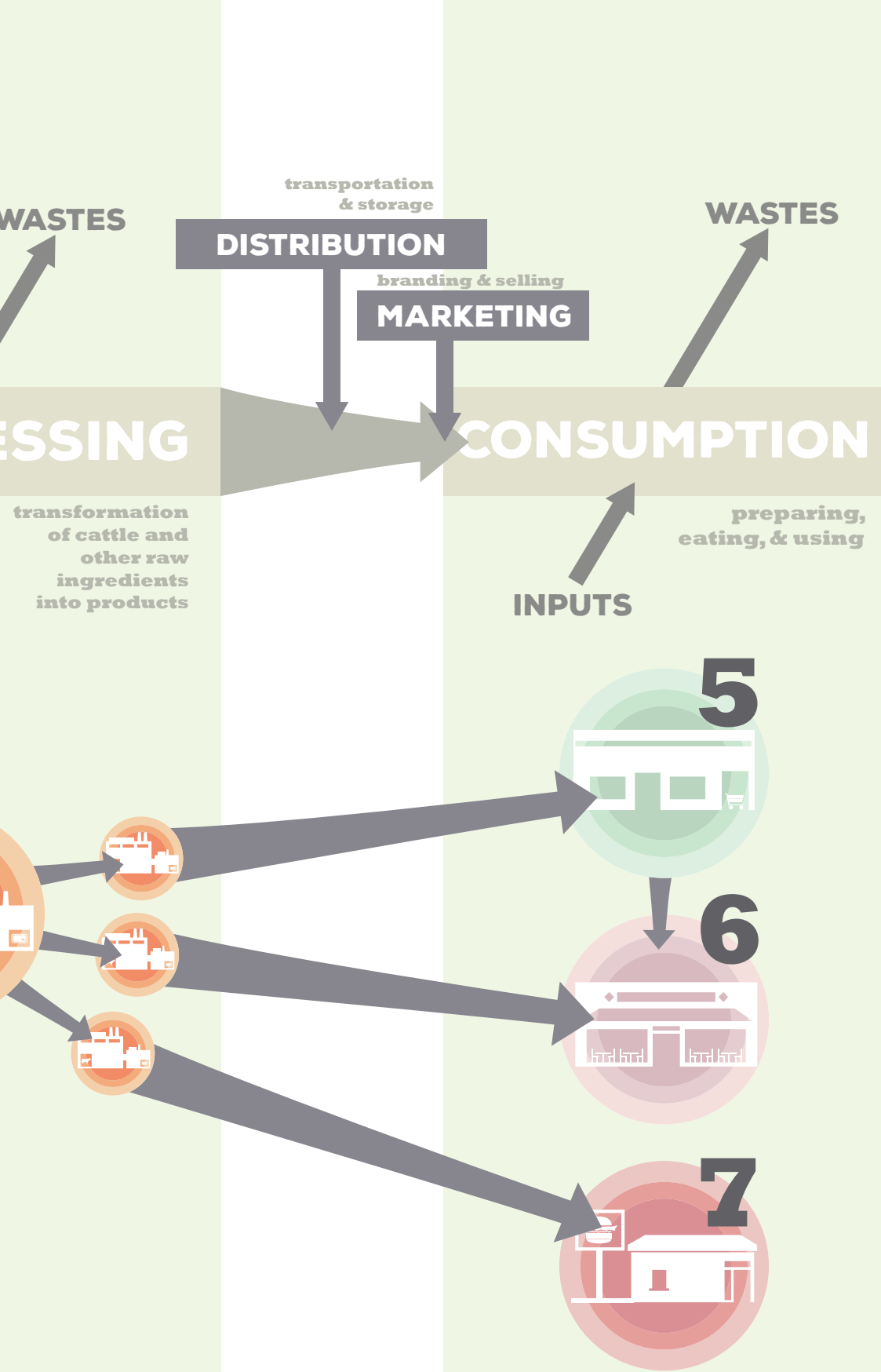
**PACKING  
PLANT**



# STREET FOOD CHAIN







**cow-calf operations**  
TOP 15 (National Cattlemen's Beef Assoc.)

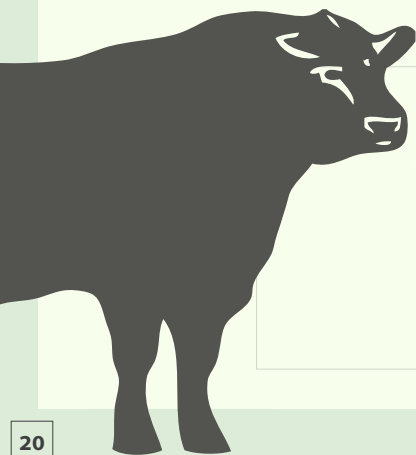
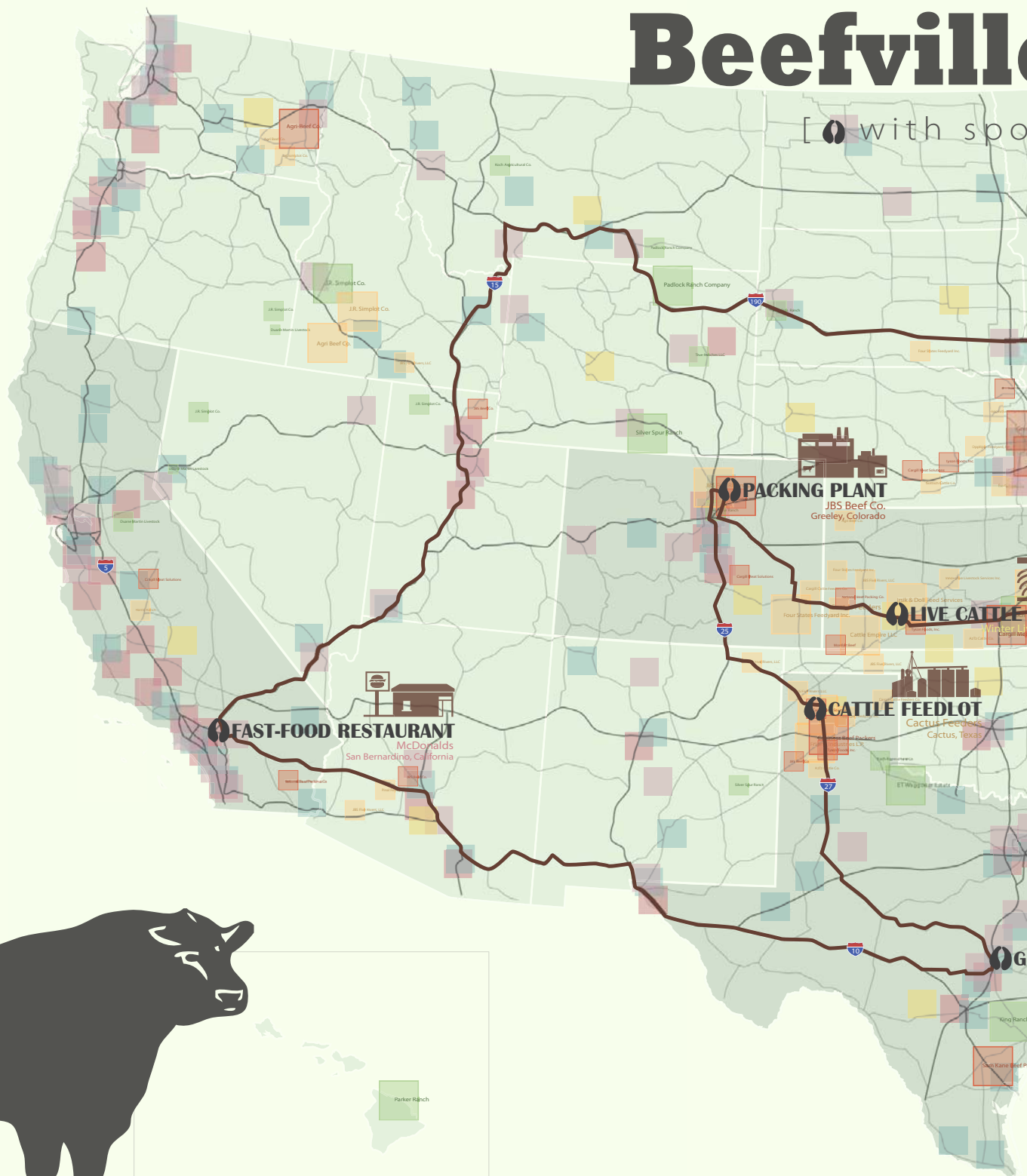
**live auctions**  
(Locations based off Winter Livestock Auction)

**feedlots**  
TOP 15 (National Cattlemen's Beef Assoc.)

**beef pack**  
TOP 10 (National Cattlemen's Beef Assoc.)

# Beefville

[with spots]



**steakhouse restaurants**  
clusters determined with Google Earth

flight locations ]



# COW-CALF OPERATION

Deseret Cattle & Citrus  
St. Cloud, Florida

# PRODUCTION

## ➤ cow/calf operation



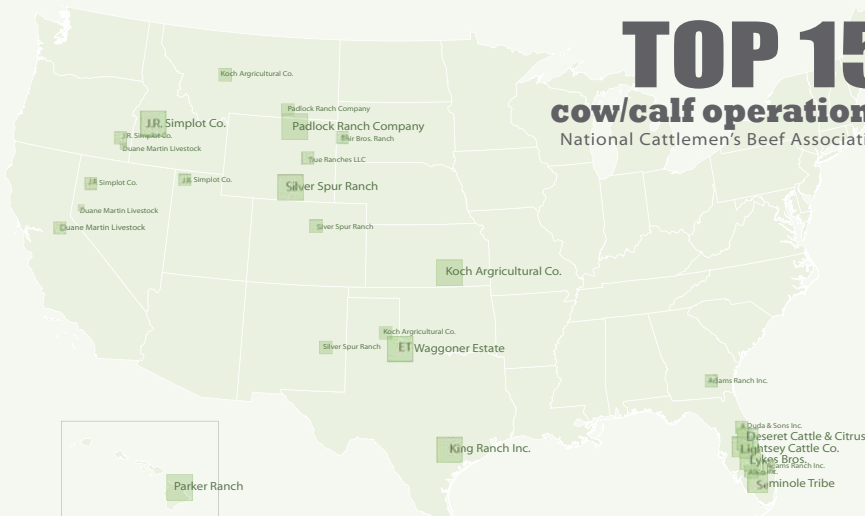
# 1



## 6-8 months



- breeding
- monitoring gestation cycles
- + birthing
- early calf development
- weaning
- raising cattle
- herding cattle



Because of the requirement for pastureland for grazing, cow/calf operations are located in **RURAL** areas. The **largest** operations are **geographically concentrated** in Florida, but there are several other operations scattered throughout the U.S. operating at much smaller scales.

in the  
**SPOTLIGHT**

# DESERET CATTLE & CITRUS

*St. Cloud, Florida*

*Building Florida's Legacy.  
Committed to Florida's Future.*

## the HERD

**44,000**

cows total

**1,300**

bulls

**33,000**

calves per year

## the LAND

**259,000**

acres

**160,000** acres

for pastureland

**13** CATTLE

management units

(> 1,000 cattle per cowboy)

**highest weaning rates  
in the industry**

**"BEST IN REGION" HONORS**  
from the National Cattlemen's  
Beef Association for  
**environmental stewardship  
& land management**

**B**eef cattle begin their lives as calves, who require the nourishment of their mothers' milk and pasture grasses to develop. Deseret Ranches have functioned primarily as a cattle operation for over fifty years, despite also producing citrus, which one would expect to come from Florida. The ranch specializes in producing quality calves that are sold after weaning to feeding operations around the country before they become beef. This involves moving herds into new pastures, prepping corrals and chutes, breeding, and weaning. Gaining the reputation as one of the leading cattle operations took years of effort and applying the latest health, nutrition, and handling 'innovations'.

When the ranch was first founded, bred cattle didn't exist in the region, so they developed a breeding program to select for traits that tolerate the heat, humidity, insects, and heavy rainfall of the climate, as well as traits for beef quality, rate of gain, reproductive capacity, and calving ease. Today, they utilize a three-way rotational breeding program that maximizes hybrid vigor with Simbrah, Braford, and Brangus Angus breeds. They also conduct research to grow higher quality grasses for the cattle to graze on.

Despite being in a remote area, the ranch is still close to urban centers that push for community development, placing pressures on the land, water, and transportation corridors.

The ranch intends to continue agricultural practices in harmony with natural systems and diverse wildlife. It claims to be committed to the regeneration and conservation of natural resources- especially water, and the future long-term planning of the region to preserve a Central Florida quality of life. For example, the ranch deploys a strategy called "edge effect", positioning patchworks of woodlands and wetlands amid pastures rather than clearing off all the land for grazing. They want the public to hear this message and they have received honors/recognition for environmental stewardship.





## PASTURE OVERTURE

How does one get around 259,000 acres without a horse? How about a gondala? Fly above vast pastures, wetlands, woodlands, and waterways from an aerial viewpoint.

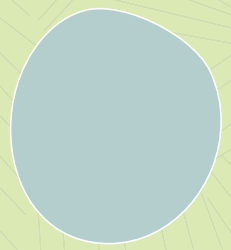


## MEET THE HERD

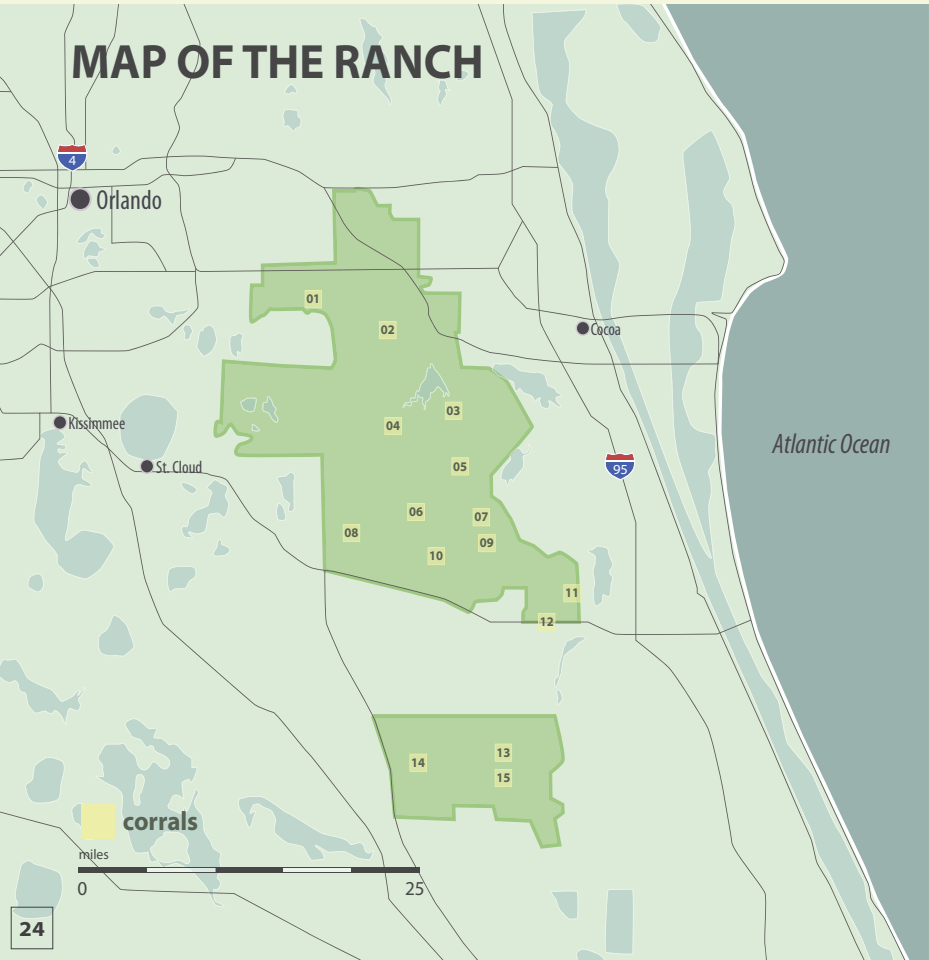
We're all on big happy family here, and our cows are no exception.

M

Cows fall  
Stroll the go  
the computer s  
bulls and p  
will look like



## MAP OF THE RANCH



# 08 corral plan

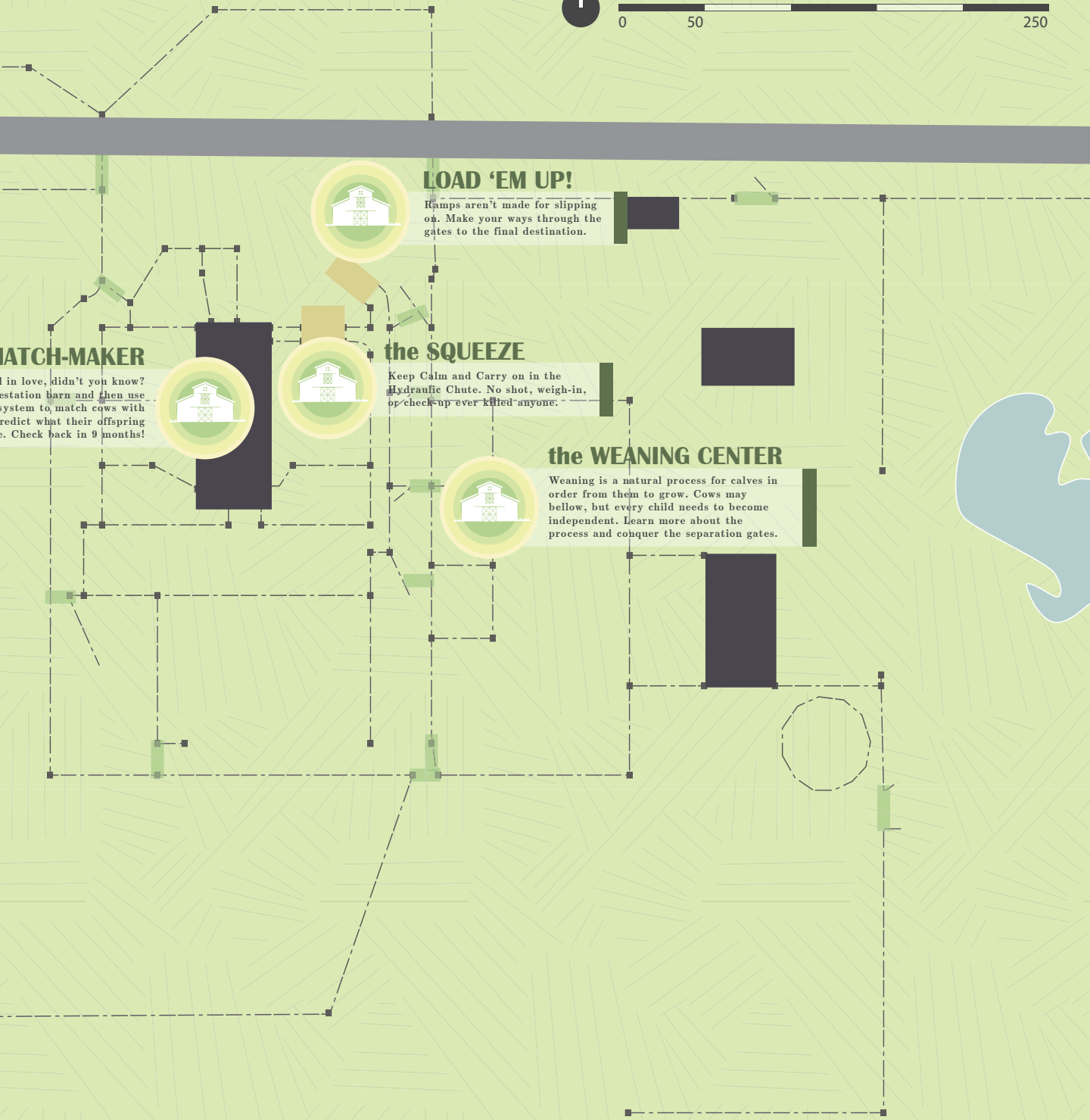


feet

0

50

250



## LOAD 'EM UP!

Ramps aren't made for slipping on. Make your ways through the gates to the final destination.

## the SQUEEZE

Keep Calm and Carry on in the Hydraulic Chute. No shot, weigh-in, or check-up ever killed anyone.

## the WEANING CENTER

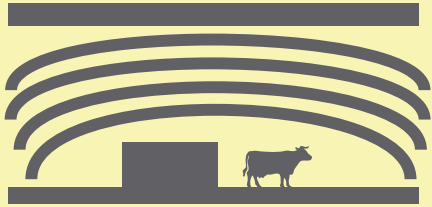
Weaning is a natural process for calves in order from them to grow. Cows may bellow, but every child needs to become independent. Learn more about the process and conquer the separation gates.

## MATCH-MAKER

In love, didn't you know? Use the station barn and then use the system to match cows with their offspring. Check back in 9 months!

# PRODUCTION

## → livestock auction



# 2

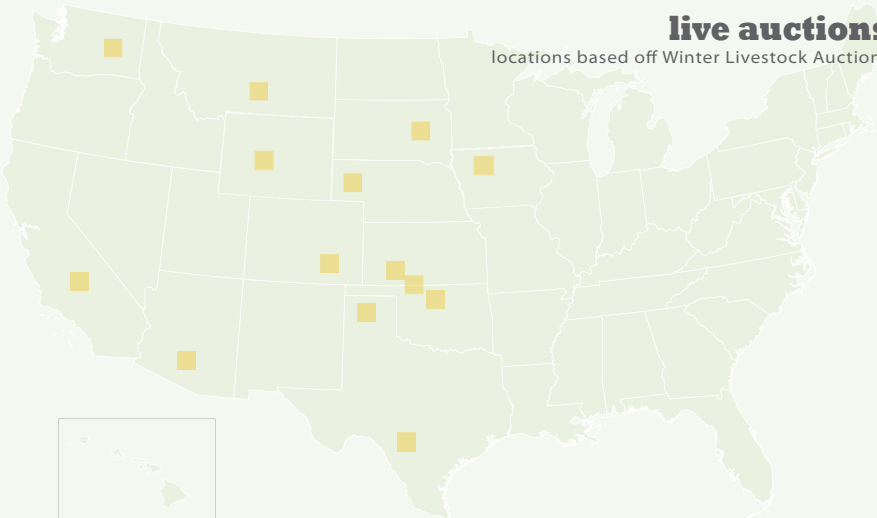


0-1 month

cattle holding  
exhibitions  
concessions  
auction

### live auctions

locations based off Winter Livestock Auctions



Livestock auctions are located throughout the U.S., but typically in more accessible cities in regions where raising, breeding, and/or finishing cattle takes place. Auctions can also be attended from **virtually anywhere** via the internet.